Feng and Cheng *China Finance and Economic Review* (2016) 4:15
DOI 10.1186/s40589-016-0038-7

China Finance and Economic Review

RESEARCH

Open Access

RMB exchange rate regime reform and the Trilemma facing LOEs

Ming Feng[1,2*] and Hao Cheng[2]

* Correspondence:
fengm.06@sem.tsinghua.edu.cn
[1]National Academy of Economic Strategy, Chinese Academy of Social Sciences (CASS), 9th Floor, 28 Shuguangxili, Chaoyang District, Beijing, China 100028
[2]Center for China in the World Economy (CCWE), Tsinghua University, Room 128, Shunde Building, SEM, Beijing, China100084

Abstract

The discussions on Renminbi (RMB) exchange rate could not depart from the ongoing reform of RMB exchange rate regime, which must be designed and promoted as an integral part of the large open economy macroeconomic policy framework. As a large open economy facing the Trilemma, China should explicitly establish the principle of domestic monetary policy dominance in the impossible trinity, with the exchange rate policy and capital account management should both conform to this fundamental principle. Simplistically pegging RMB to the US dollar will result in lack of flexibility and violate this principle, especially against the backdrop of unsynchronized economic cycles of major economies and the prospect of further Fed tighten up that the real effective exchange rate of RMB moves passively along with the US dollar which cannot reflect the relative changes in economic fundamentals in China and abroad, which will cause distortions, resulting in resource misallocations and loss of welfare. The reform of RMB exchange rate regime should be market-oriented, towards a direction with more flexibility.

Keywords: Impossible trinity, RMB exchange rate regime, Large open economy

Background

After the renminbi (RMB) exchange rate central parity reform on August 11, 2015, the exchange rate of RMB against the US dollar moved rapidly and logged a large amount of depreciation. On December 11, 2015, the China Foreign Exchange Trade System (CFETS) unveiled the CFETS RMB Index. According to the People's Bank of China (PBC), the RMB exchange rate regime would put more weight on referencing to a basket of currencies, and the exchange rate of RMB against the currency basket would be maintained generally stable. The ensuing further depreciation of RMB against the US dollar shocked the international financial market. The PBC struggled to guide the market expectation through foreign exchange market intervention and strengthened communication; nonetheless, the expectation of further RMB depreciation never subdued, because the market was skeptical about the intention and capacity of the PBC.

Meanwhile, capital flight emerged as a tricky problem that called for the macroeconomic policymakers' close attention. In the light of the RMB depreciation trend, the corporate sector sped up paying back debts denominated in US dollar and obtained less US dollar credits, and some residents enlarged their position in US dollar assets.

To prevent further large depreciation of RMB and stop the panic, the monetary authority tried to guide the market through foreign exchange market intervention utilizing China's huge official foreign exchange reserves. China's official foreign exchange reserves shrank rapidly from the peak of 3993.2 billion US dollar in June 2014 to 3330.4 billion US dollar at the end of 2015.[1] In 2015 only, the reserves lost 512.7 billion US dollar. For a very long time, in the context of the double surpluses of the international balance of payment, the discussion on China's official foreign exchange reserves focused on topic such as *whether the foreign exchange reserves were too large* and *the welfare loss of excess foreign reserves*. However, the rapid depletion of the foreign reserves in 2015 led to a turnaround of public opinions, *whether the foreign exchange reserves were adequate* emerged as a much-discussed topic. Naturally, capital flight and foreign reserve depletion further strengthened the market's expectation for RMB depreciation.

Suddenly, *why RMB depreciated*, *should RMB depreciate or not*, *to what point RMB would depreciate*, etc. became the focal point of the market and public opinion. There's no doubt that these discussions focused on the short-term have virtues; nevertheless, this paper argues that the discussions on RMB exchange rate could not depart from the ongoing reform of RMB exchange rate regime, which must be designed and promoted as an integral part of the large open economy (LOE) macroeconomic policy framework. For market players, without clear understanding of the RMB exchange rate regime reform, they cannot grasp and forecast RMB exchange rate movements and answer the abovementioned questions in a systematical manner. And for policymakers, they can effectively push forward the RMB exchange rate regime reform only if they fully understand the LOE macroeconomic policy framework.

This paper first briefly reviews the history of RMB exchange rate regime reform, analyzes the current difficulties, and then revisits the traditional open macroeconomic and international finance theories; based on that, four policy suggestions are presented.

The RMB exchange rate regime needs reform urgently

A brief review of the history of RMB exchange rate regime reform

Since the reform and opening-up, the RMB exchange rate regime could be divided into three stages.

The first stage is before 1993, when two-track exchange rates were practiced. The official exchange rate, which was fixed, coexisted with a market exchange rate, which floated freely.

The second stage begins with the unification of the two-track exchange rates into one single exchange rate on January 1, 1994 and ends with the exchange rate reform on July 21, 2005. At this stage, *the managed floating exchange rate regime*, *which was based on market supply and demand*, was practiced. However, RMB was de facto pegged to the US dollar, and the exchange rate of RMB against the US dollar virtually did not fluctuate (Fig. 1).

The third stage begins with the exchange rate reform on July 21, 2005. *The managed floating exchange rate regime based on market demand and supply with reference to a basket of currencies* was practiced since then. Thereafter, the RMB exchange rate appreciated persistently with only an interlude after the 2008 global financial crisis broke out, when RMB was pegged again to the US dollar de facto in view of the new global economic and financial environment, before RMB resumed the persistent appreciation against the US dollar after the furthering of the reform in June 2010.

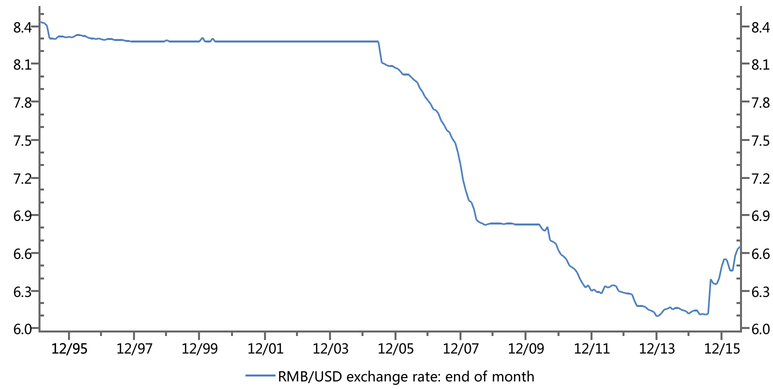

Fig. 1 The exchange rate of RMB against US dollar: spot price, end of month (1995.1–2016.7)

In fact, the RMB exchange rate flexibility was not high before 2014, when either RMB was pegged to US dollar, or RMB was crawling pegged to the US dollar and appreciated persistently. This changed markedly in 2014. On March 17, 2014, the PBC expanded the floating band of the exchange rate of RMB against US dollar on the foreign exchange market from 1 to 2 %, i.e., on every trading day on the inter-bank spot market, the trading prices of RMB against US dollar will fluctuate within a band of ±2 % below and above the central parity as released by the CFETS on that day. The exchange rate of RMB against US dollar first depreciated then appreciated before depreciated again, moving in an N-shape, with a spread of 1481 basis points between the peak and trough. Thus, 2014 should be deemed as the first year in which the exchange rate of RMB fluctuated bi-directionally (Feng 2015).

2015 was a significant year in terms of the RMB exchange rate regime reform. Effective from August 11, 2015, the PBC decided to improve the quotation mechanism of the central parity of RMB against US dollar. *The quotes of central parity that market makers report to the CFETS daily before market opens should refer to the closing rate of the inter-bank foreign exchange market on the previous day, in conjunction with demand and supply condition in the foreign exchange market and exchange rate movement of the major currencies*. This measure enhanced the market-orientation and benchmark status of the central parity of RMB against US dollar. Furthermore, on December 11, 2015, the CFETS unveiled the CFETS RMB Index. Since then, the RMB exchange rate regime put more weight on referencing to a basket of currencies, and the exchange rate of RMB against the basket of currencies should be maintained generally stable.

The characteristics and causes of the 2015 RMB exchange rate regime reform

There are three points worth noting for the 2015 RMB exchange rate regime reform and ensuing exchange rate fluctuation.

First, the 2015 reform was implemented in a very complex international and domestic economic and financial environment, largely reflected in the unsynchronized economic cycles and uncoordinated economic policies of major economies. At that time, the US economy was steadily recovering with heightened expectation that the Fed would raise interest rates for the first time in 8 years, which the Fed did on December 17, 2015.

The European and Japanese economies were still clouded with crises with ongoing QE. The emerging economies were largely facing macroeconomic risks and experiencing currency depreciation because of tumbling commodity prices and accelerated capital outflow. Troubled by structural deflation, excess capacity in certain industries and high leverage, the Chinese economy was decelerating and expanded only 6.9 %, the lowest growth rate in 25 years, in 2015.

Second, foreign exchange rate is an endogenous variable codetermined by the interaction of numerous market players, in addition to being managed by the monetary authority. More importantly, exchange rate is only one of the many interlinked policy variables and endogenous market variables. Policymakers must face trade-off among policy variables and consider the expectations and possible responses of market players when managing the exchange rate. This is especially the case for the exchange rate management and reform of China in 2015, when the PBC cut the RMB benchmark lending rate five times and lowered the reserve requirement ratio five times as part of the counter-cyclical macroeconomic regulation measures. Lowering interest rates and reserve requirement ratio had impacts on international capital flows and exchange rate. Conversely, the exchange rate adjustment had impacts on other policy variables.

Third, the reform of RMB exchange rate regime had huge repercussions on the global financial markets. Immediately after the August 11 reform, the US and EU stock markets, the commodity markets, and the gold price suffered drastic fluctuations, and the same after the PBC's announcement on more referencing to a basket of currencies in last December. Therefore, international investors, IOs, and foreign government policymakers observed the RMB exchange rate movements and policy shifts attentively more than ever.

Having the above three points in mind is essential to understand future reforms of RMB exchange rate regime and forecast RMB exchange rate. As mentioned above, the 2015 reform was implemented in a very complex international and domestic economic and financial environment and triggered huge waves and heated debates. Based on our survey, the policymakers had full awareness of this. Then the question is why they took the risks and pushed through the reform at such a point in a very complex international and domestic economic and financial environment? The answer is that the problems stemmed from the old exchange rate regime caused more and more distortion and welfare loss. In other words, although it could be seen as a new step toward the market-oriented reform initiated in July 2005, to some extent, the 2015 reform was forced by the reality.

To perform a systematical welfare analysis is beyond the scope of this paper. Instead, we present an important fact. The real effective exchange rate (REER) is widely used to reflect the relative value changes between currencies and the overall competitiveness of an economy. Figure 2 shows that the RMB REER usually departs from the GDP growth rate. This is most evident in 2011, when the RMB REER increased persistently with increasing downward pressure on the Chinese economy. Contrast to the cases of other representative economies illustrated by Fig. 3, this is really an exceptional. The REERs of both emerging economies like India, Brazil, Russia, and Mexico and developed economies such as the USA, the Euro Area, Japan, and the UK are cyclical variables following the same trend of the economy growth. The inflexible exchange rate regime impedes the dynamic adjustment of the currency value adapting to international and

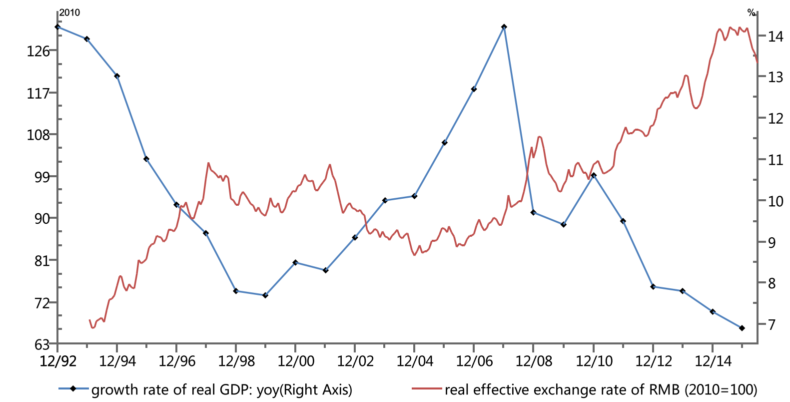

Fig. 2 RMB real effective exchange rate and China's real GDP growth (1992.1–2016.7)

domestic economic conditions, thus leads to price distortions, resource misallocation, and welfare losses. In the face of downward economic pressure and feeble external demand, the negative effects of the inflexible exchange rate on the macroeconomy deserve more attention.

The growing deviation of the RMB REER from the GDP growth rate stems from the de facto pegging-to-US-dollar exchange rate regime, more so after July 2014, when currencies of major developed economies and emerging economies universally depreciated to a large extent against the US dollar (Feng 2015). In contrast, the RMB REER against a basket of currencies appreciated substantially due to the de facto pegging-to-US-dollar exchange rate regime, i.e., the value of RMB moved passively along with the US dollar (Fig. 4), resulting in the partial loss of autonomy of the exchange rate policy.

Trilemma faced by the large open economy and macroeconomic policy framework

Since the 2015 exchange rate regime reform was forced by the reality, then pushing through is the only option. In a matter of fact, as mentioned above, the exchange rate regime is only one dimension of the LOE macroeconomic policy framework, besides the capital account management, domestic monetary policy autonomy, and so on. The choice of RMB exchange rate regime should be weighed in the complete LOE macroeconomic policy framework.

The LOE macroeconomic policy framework is in line with the theory of trilemma, or the impossible trinity, which is a classic conclusion of the open macroeconomics (Mundell 1963; Fleming 1962). According to this theory, a fixed foreign exchange rate, free capital movement, and an independent monetary policy cannot coexist simultaneously; thus, the policymakers must choose two objectives among the three. A country with open capital account and fixed exchange rate will lose the independence of its domestic monetary policy. A country with fixed exchange rate and the indent on independent monetary policy must control the capital account. A country with free capital movement and independent monetary policy must allow float exchange rate.

In the Bretton Woods era, the currencies of major economies were pegged to the dollar, which was pegged to the gold; each economies retained monetary policy autonomy, while international capital movements were stringently controlled. In the

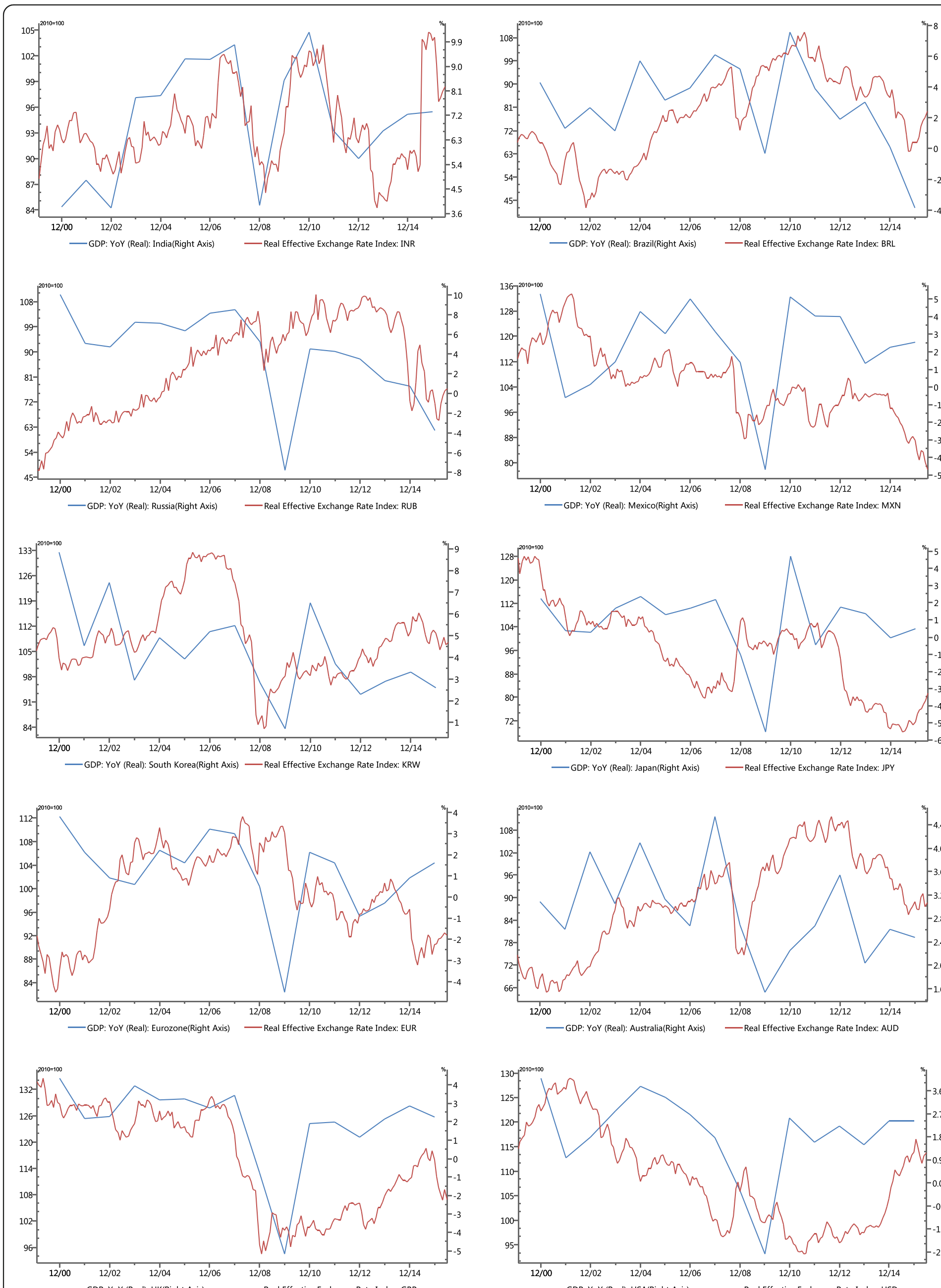

Fig. 3 Real effective exchange rate and real GDP growth: selected economies (2000–2016)

post-Bretton Woods era, confronted by the trilemma, major developed countries chose open capital accounts and independent monetary policies while abandoned the objective of stable exchange rates and adopted float exchange rate regimes. When the Euro Area was established, its members actually abandoned monetary policy autonomies and chose free capital movements and fixed exchange rates. Because of the differences in their economic development levels and international competitiveness, the absence of monetary autonomy brought severe problems among Euro Area members. The economic slowdown of the Euro Area after 2008 was probably related to the economic imbalance caused by this institutional backdrop. In contrast, Hong Kong, an open small

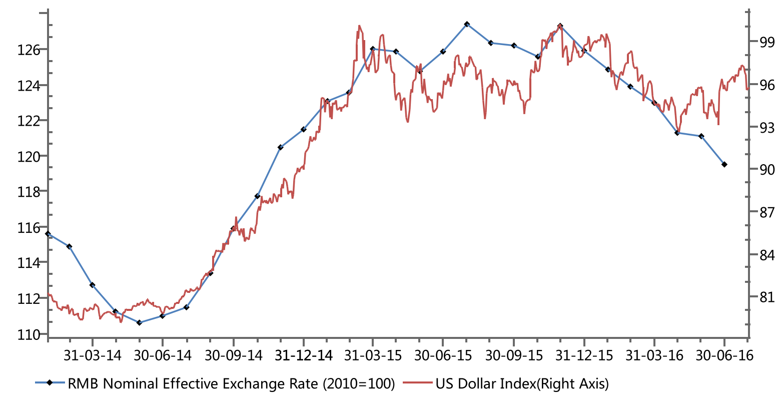

Fig. 4 RMB nominal effective exchange rate and US Dollar Index (2014.1–2016.7)

economy, chooses open capital account to allow free capital movements and fixed exchange rate regime, which link the HK dollar to the US dollar and abandoned monetary policy autonomy along the way.

As the deepening of the global economic integration, capital controls are less and less effective, due to the fast growth of international trade and the diversification and complexity of international finance. It is also the case for China. Though China still imposes controls on short-term capital account and its long-term capital account is not fully open, substantial international capitals can nonetheless find ways to flow in or out.

In view of that international capital movements which are extremely hard to restrict, the trilemma could be reduced to the dilemma, i.e., the incompatibility of monetary policy autonomy and stable foreign exchange rates. In a real world in which international capitals move freely more than ever, stable exchange rates can only be maintained by forsaking the independence of domestic monetary policies. For instance, when the Fed implements loose monetary policy, China imports monetary ease passively; when the Fed tightens up, China tightens up along with the USA. Otherwise, if China wants to tailor its monetary policy to domestic economic conditions independently, then China must accept exchange rate fluctuations.

For sure, both the trilemma and the dilemma are simplified ideal cases for the purpose of research and policy discussions. In the real world, things are not that clear-cut. For example, when allowing free capital movements, in theory, a complete independent monetary policy cannot coexist with a fixed exchange rate; however, in reality, the exchange rate can be maintained to float within a certain band by partly sacrificing the autonomy of monetary policy or even be kept stable temporarily by forsaking independent monetary policy in a certain short period. This is repeated by policymakers when the exchange rates are tested with depreciation pressures, considering monetary policies have lag time and their effects are more than often unclear, and in contrast, the exchange rate fluctuations conspicuously impact in real time.

However, there are disputes on the stability of the ambiguous choice like this. As a matter of fact, currency crises often break out in countries with intermediate exchange regimes. Yi and Tang (2001) argued that intermediate exchange rate regimes are instable with free capital movement, and they would be pressured to shift to corner exchange rate regimes, i.e., the corner solution hypothesis is tenable.

Revisiting the traditional open macroeconomic and international finance theories

There is a two-way interactive impact between economic theories and economic practices. As the evolution of the global economic pattern and the deepening of the global financial markets, the LOE macroeconomic policy framework should be established based on revisiting and reflecting on the traditional open macroeconomic and international finance theories.

Recognizing the difference between large open economies and small open economies

So far, most mainstream literatures in most financial theories assume economies are all small open economies (SOE), which is acceptable when the research objects are not large economies and can simplify the model and make it tractable (Mendoza 1991; Galí & Monacelli 2005).

However, with the establishment of the Euro Area and the rise of China, the limitations for the SOE assumption are more and more obvious.

First, small open economies are usually price takers while large open economies can influence or even set the prices of international products and production factors.

Second, the spillover effect is usually one way only with the SOE assumption, while the policy effect transmission mechanisms are more complicated between large economies. For example, in an open economic model which only considers the USA and Singapore, usually, only the spillover effect of the Fed monetary policy on Singapore is considered, for Singapore is too small to have any spillover or spillback effect on the USA. However, in an open economic model which consists of the USA and China, two-way interaction of economic policies must be considered, for the US economic policies have an impact on China and vice versa, even the Fed monetary policies could have spillback effects from China by having spillover effect on China first, besides directly impact the US economy. The August 11 reform in 2015 and the international financial markets volatility in early 2016 are well demonstrated to this point.

Revisiting capital account liberalization and capital control

International capital movements are necessary for cross-border capital allocation, which provide developing countries with initial capitals and promote technology progress in backward countries by technology diffusion, thus promote economic growth. Therefore, the mainstream economics encouraged international capital movements after the Bretton Woods system dissolved. International organizations such as the IMF advocated capital account liberalization around the world and argued against capital control.

However, the free environment was taken advantage by speculative capitals. The hot money boosts the asset bubbles and false prosperity when flows in and triggers currency depreciation and drags the economy into crises when flows out. There are fast inflows and outflows of large amount of international capitals before and during both of the Latin America economic crises in 1980s and the Asian financial crises in 1990s. With the large scale of QE policy by the USA, tremendous amount of US dollar capitals flew into emerging economies, which now are pressured by capital outflows as the Fed began to raise interest rates and international capitals flow back to the USA.

Policymakers and economists began to reflect on the capital account liberalization after the Asian financial crises. After the 2008 global financial crisis, there is a new wave of reconsidering capital account liberalization among mainstream economists. Many researches show that there is no substantial evidence to support the capital account liberalization that could promote economic growth in developing countries, quite the contrary, excess capital account openness more than often inflict severe damages upon developing countries during crises (Klein & Olivei 2008; Jeanne et al. 2012). A significant milestone is that the IMF issued a report in favor of appropriate capital control, changing its position held in a long time (Ostry et al. 2010). Dani Rodrik, a Harvard economic professor, called this the end of an era in finance.[2]

Combining the structural and cyclical perspectives to analyze the evolution of the international monetary and financial system

The international monetary and financial system is constantly evolving. On the one hand, the structural shifts of global economic and trade drive the evolution of the international monetary and financial system. On the other hand, economic cycles will disturb the evolution trends of the international monetary and financial system. Thus, the structural and cyclical perspectives should be combined together to analyze the evolution of the international monetary and financial system, of which is unfortunately lacking in previous researches.

First, let us take the structural perspective. In essence, the international monetary and financial system is an institution established on the economic pattern and political order in a certain historic period. The Bretton Woods system, which centered on the USA and the dollar, i.e., the US dollar was pegged to the gold and currencies of other countries were pegged to the US dollar, was established, when the major economies in Europe and Asia suffered tremendous losses and only the USA unscathed after the WWII. Objectively speaking, the Bretton Woods system provided a stable international financial system for the reconstruction after the WWII. However, as the rising of Germany and Japan, the absolute dominance of the USA and the dollar was challenged. Due to its inability to adapt to the new global economic patterns, the Bretton Woods system eventually collapsed in 1973. Then the international monetary and financial system entered the Jamaica era.

In essence, the Triffin dilemma, a fundamental problem caused by the center status of the US dollar, triggered the collapse of the Bretton Woods system. On the one hand, every country needed to accumulate the US dollars to trade purpose; on the other hand, the persistent dollar outflows meant long-term trade deficits of the USA, which applied depreciation pressure on the US dollar and shook the confidence in the US dollar by other countries. Although the US dollar still dominated in the Jamaica system; nonetheless, its power was weakened. In the 1990s, the global economic patterns shifted substantially again. First, developing countries' shares in the global economy and trade were larger and larger, with the rise of a lot of emerging economies. Second, the European economic integration process progressed significantly with the establishment of the Euro Area. From the structural perspective, the weakening of the US dollar is a long-term trend (Fig. 5).

Then let us take the cyclical perspective. A typical feature of the market economy is the economic cycles. When economic crises break out, the risk aversion sentiment reaches

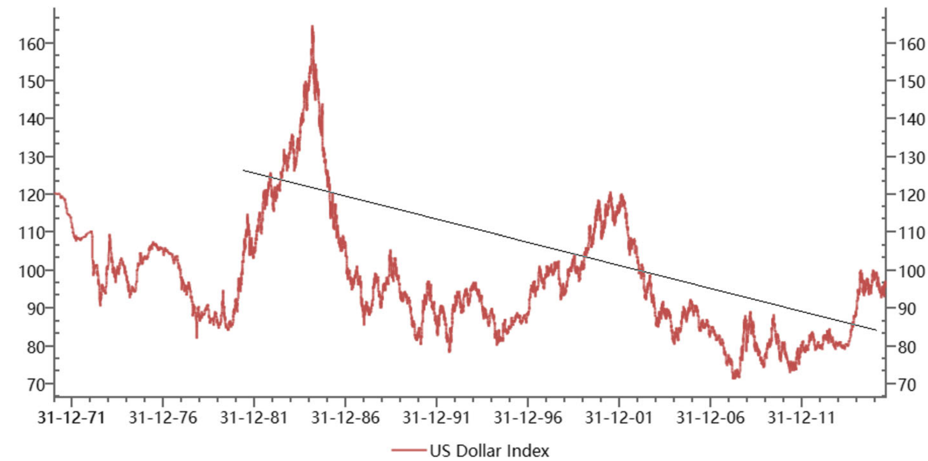

Fig. 5 US Dollar Index (1971–2016)

high in the market, thus capitals flow back to the USA, thanks to the safe-haven asset status of the US dollar. Besides, unsynchronized economic cycles and uncoordinated economic policies of major economies impact the international monetary and financial system. Currently, the USA is leading the recovery process, Europe and Japan are facing significant uncertainties, and the emerging countries are lacking momentum. In this context, the tighten-up of the Fed monetary policies will strengthen the US dollar to appreciate against other currencies, resulting in international capitals flow to US dollar assets.

Combining the two perspectives, in the long run, rather than pegging to the US dollar, the RMB exchange rate regime should conform to the structural trend, i.e., the international monetary and financial system must adjust to the structural shifts of the global economic patterns, which reflect the evolution of the balance of power among major economies. This is an objective law, to which we should have clear understanding. Meanwhile, the cyclical factors are not to be neglected in certain periods. Now in the context of a complex international and domestic environment with unsynchronized economic cycles of major economies, policy choices and the RMB exchange rate regime reform should be more strategic and flexible.

Policy implications

Revising the traditional open macroeconomic and international finance theories could provide reference to our macroeconomic policy formulation and the RMB exchange rate regime reform. In general, the RMB exchange rate regime reform should be implemented in the context of the LOE macroeconomic policy framework, particularly reflecting the large economy feature and the open economy feature. Specifically, four policy implications and suggestions are brought forth below.

Explicitly establishing the principle of domestic monetary policy dominance in the impossible trinity

A large economy requires fine-tuned macroeconomic regulations due to complex economic structures. The cost of forsaking domestic monetary policy autonomy is unbearable for a large economy, to which Japan is a revealing case (McKinnon & Ohno 1997; Obstfeld 2009) to be analyzed and learned from. Especially with unsynchronized economic cycles of major economies, maintaining independent domestic monetary policy is crucial more than ever. Facing the trilemma, large countries should explicitly establish the principle of domestic monetary policy dominance in the impossible trinity. With the tendency to reduce to the dilemma from the trilemma, the open economies are facing harder constraint when formulating economic policies. Nevertheless, the principle of domestic monetary policy dominance should not be undermined. Meanwhile, the foreign exchange rate policy and capital account management should conform to this fundamental principle.

Strengthening the foreign exchange rate flexibility and establishing a market-determined exchange rate regime

The foreign exchange rate policy should conform to the fundamental principle of domestic monetary policy dominance. The first order of business is to strengthen the RMB exchange rate flexibility. The essence of foreign exchange rate is the relative price of two currencies. Since China is a fast growing large economy, simplistically pegging RMB to the US dollar or any other single currency will would cause distortions and resource misallocations. In such case, even though domestic monetary policy autonomy could be maintained by foreign exchange market intervention utilizing the abundant foreign exchange reserves, the prices of that would be too great and the practice would be unsustainable. The lesson of the 2015 reform was simple and clear that the tremendous amount of foreign exchange reserves cannot guarantee the overcome of the dilemma. Although the 3.3 billion US dollar official exchange reserves are still sufficient, they are not enough to maintain domestic monetary policy autonomy while defend the strong RMB.

The reform of RMB exchange rate regime should be market-oriented, towards a direction with more flexibility. The exchange rate against a basket of currencies can reflect the relative value changes of RMB more comprehensively. More referencing to a basket of currencies can help to adjust the value of RMB to the international balance of payments dynamically, enhance the exchange rate flexibility of RMB against any other single currency, the US dollar included, and is a crucial step of the market-oriented reform.

It should be noted that referencing to a basket of currencies is only an intermediate arrangement between pegs and free floats and is a compromise to the current economic conditions of unsynchronized economic cycles and uncoordinated economic policies of major economies. The new regime is not as rigid as pegging to the US dollar, enhanced the RMB exchange rate flexibility and avoided shocks to the financial market and the real economy in the free-floating regime. However, from a longer perspective, it is only a small step on the road to establish a market-determined exchange rate regime.

Treating capital account liberalization cautiously and managing different capital accounts accordingly

The capital account management should also conform to the fundamental principle of domestic monetary policy dominance. This paper argues that the liberalization process of China's capital accounts should be treated cautiously in the light of the soft budget constraint problem, the unfinished interest rate liberalization reform and RMB exchange rate reform, and many structural problems in domestic financial system.

First, the liberalization process of capital accounts should be gradual and not just in one go, with the sequence of capital accounts to be opened prioritized in the context of the LOE macroeconomic policy framework. Yu (2015) argued that the liberalization of the capital account is not necessary or inevitable and should not be listed as one of the ultimate objectives of the economic system reform. In the case of China, the liberalization of the capital account should be conditioned on domestic financial sector reform and market-determined interest rate mechanism and exchange rate regime. Trying to leverage the liberalization of the capital account to compel domestic financial sector reform is putting the cart before the horse.

Second, capital accounts should be opened and managed simultaneously, to reduce risks. Portfolio investments, especially the fast inflow and outflow of international capitals, have unpredictable impacts on an economy and may even amplify economic fluctuations and threaten macroeconomic stability in certain periods affected by the animal spirit. We suggest applying risk management measures to short-term international capital movements as part of the macroprudential framework. The possible measures include emergency threshold management, Tobin tax (Chen & Wang 2007; Yi 2015), and others. As a matter of fact, most economies with so-called open capital accounts regulate international capital movements, especially short-term international capital movements, except the USA, the Euro Area, and Hong Kong.

Overcoming the fear of floating

In order to establish a market-determined exchange rate regime, the fear of floating must be overcome. Empirical studies suggest most countries, especially emerging market economies, try to smooth exchange rate fluctuations by foreign exchange market intervention or adjust interest rates out of fear of floating when experience shocks, although they claim to have floating exchange rate regime (Calvo & Reinhart 1982; Patnaik & Shah 2010). Patnaik and Shah (2010) showed that this phenomenon was widespread in Asian countries, China and India included. The fear of floating is more prominent during crises, highlighted by the fear of currency depreciation. Since international capital movements are procyclical, the fear of floating means the monetary authorities would channel the procyclical of international capital movements into domestic monetary policies, which is forsaking domestic monetary policy autonomy to some extent and against of the principle of counter-cyclical regulation of monetary policy.

In general, the fear of floating comes from three dimensions. First, currency depreciation could increase the real burden of external debt. Many enterprises and financial institutions in developing countries have substantial amount of liabilities denominated in foreign currencies, while most their assets are denominated in domestic currencies, namely currency mismatch. When domestic currencies depreciate, the balance sheets of corporate sector and financial sector will deteriorate, making it even hard to get financed on the international financial market. Second, currency depreciation could lead to capital flight, which exerts downward pressure on domestic investment and output, especially when the central bank raises interest rates to stop the currency depreciation, in which case, even more contraction. Third, currency depreciation could cause inflation, threatening domestic economic stability.

To some extent, pegging its domestic currency to the US dollar or any other inflation-proof currency could be deemed as an institutional arrangement or commitment of a developing country to contain inflation. However, currency depreciation violates the commitment and could trigger a credibility crisis.

Nevertheless, in the current case of China, there are clearly not enough reasons to fear the depreciation of RMB. First, the burden of external debt is relatively low in China. Liabilities denominated in foreign currencies account for only a small portion of the total liabilities of financial institutions in China. In the corporate sector, the overall volume of liabilities denominated in foreign currencies is still under control despite its rapid growth in recent years. Moreover, thanks to the deleveraging process since the expectation of RMB depreciation appeared last year, the scale of corporate sector external debts has dropped significantly. Second, although capital flight does have downward pressure on the economy in theory, there are reasons to believe it will not have too much impact on the Chinese economy under current circumstances, because the economy is short of investment demands rather than liquidity. Besides, the PBC still has sufficient policy space to offset the liquidity squeeze created by the capital flight. Third, the problem of the Chinese economy is structural deflation but not inflation at present. In the short term, the depreciation of RMB not only will not cause inflation but also will help to mitigate the deflation. Forth, there is no basis for substantial depreciation of RMB, for China is in a healthy condition in terms of international payment, maintaining a moderate current account surplus for a long time. Last but not the least, the moderate depreciation of RMB could help to maintain employment in exporting enterprises through alleviating pressures on them.

To sum up, there is no need to fear too much of a floating RMB exchange rate. Even if there should be overshooting in a short term due to irrational behaviors of the financial market, the RMB exchange rate would stabilize before long and not go into an uncontrolled free fall.

In order to overcome the fear of floating, the PBC should strengthen communication with the market to guide the expectations. It should be noted that the equilibrium exchange rate is a theoretic concept in macroeconomics and no reliable estimating method exists. Ridden by the animal spirit and speculative trading, only relying on the competitive trading of the financial market cannot guarantee foreign exchange market clearing at the equilibrium exchange rate, i.e., the former is not a sufficient condition for the latter. This is more so considering the particular structure of the foreign exchange market. Since the PBC is a super market player here, if the PBC does not give clear signals or operate with credible rules when facing exogenous shocks, the market may easily overreact with one-way appreciation overshoot or one-way depreciation overshoot, in which situation the communication and guidance of the PBC will be extremely important. From the long-term perspective, the fundamental approach to overcome the fear of floating is to deepen both the onshore and offshore RMB-denominated financial markets, for risks will concentrate on the foreign exchange market and hence amplify exchange rate fluctuations if the financial market is not deep enough.

Conclusions

The depreciation of RMB is currently a hot issue that draws a lot of attention from policymakers and market players. This paper argues that the discussions on RMB exchange rate could not depart from the ongoing reform of RMB exchange rate regime, which must be designed and promoted as an integral part of the LOE macroeconomic policy framework.

The policymakers of LOEs must formulate policies facing the trilemma, which has the tendency to reduce to the dilemma, considering the deepening of the global economic integration renders capital controls less and less effective. In contrast to small open economies as price takers, large economies can influence or even set the prices of international products and production factors. Besides, the policy effect transmission mechanisms are more complicated between large economies. The evolution of the international monetary and financial system is driven by both structural shifts and economic cycles, thus the structural and cyclical perspectives should be combined together to analyze and engage in the evolution of the international monetary and financial system.

Based on revisiting the traditional open macroeconomic and international finance theories, this paper presents four policy suggestions on China's LOE macroeconomic policy framework and the RMB exchange rate regime reform: first, explicitly establish the principle of domestic monetary policy dominance in the impossible trinity; second, strengthen the foreign exchange rate flexibility and establish a market-determined exchange rate regime; third, treat capital account liberalization cautiously and manage different capital accounts accordingly; and fourth, overcome the fear of floating.

All in all, simplistically pegging RMB to the US dollar will result in lack of flexibility. That the RMB REER moves passively along with the US dollar cannot reflect the relative changes of domestic and international economic fundamentals, especially against the backdrop of unsynchronized economic cycles of major economies and the prospect of further Fed tightens up. Since the essence of foreign exchange rate is the relative price of domestic currency against a foreign currency, an inflexible exchange rate regime will cause distortions, resulting in resource misallocations and loss of welfare. As a large open economy facing the trilemma, China should explicitly establish the principle of domestic monetary policy dominance in the impossible trinity, with the exchange rate policy and capital account management should both conform to this fundamental principle.

Endnotes

[1]Data retrieved from the website of the State Administration of Foreign Exchange: http://www.safe.gov.cn/wps/portal/english/Home.

[2]Dani Rodrik, "The End of an Era in Finance," Project Syndicate, 2010-03-11.

Abbreviations
CFETS: China Foreign Exchange Trade System; LOE: Large open economy; PBC: People's Bank of China; REER: Real effective exchange rate; SOE: Small open economy

Authors' contributions
MF conceived the framework and ideas of the entire study and wrote the first draft. HC provided critical comments and revised the manuscript. Both authors read and approved the final manuscript.

Authors' information
Feng Ming is a research fellow at the National Academy of Economic Strategy, Chinese Academy of Social Sciences (CASS), as well as at the Center for China in the World Economy (CCWE), Tsinghua University. Dr. Feng mainly researches and teaches Macroeconomics, International Finance, and Chinese Economy.
Cheng Hao is a research fellow at the Center for China in the World Economy (CCWE), Tsinghua University. Dr. Cheng mainly researches Chinese Economy and Macroeconomics.

Competing interests
The authors declare that they have no competing interests.

Received: 12 August 2016 Accepted: 12 October 2016
Published online: 09 November 2016

References

Calvo GA, Reinhart CM (1982) Fear of floating. Q J Econ 117(2):379–408
Chen Y, Wang Y (2007) Can China put the Tobin tax into effect? Tax Res 11:11–15
Feng M (2015) Understanding the new normal of the RMB exchange rate. Tsinghua Financ Rev 2:66–68
Fleming JM (1962) Domestic financial policies under fixed and under floating exchange rates. IMF Staff Papers 9(3):369–379
Galí J, Monacelli T (2005) Monetary policy and exchange rate volatility in a small open economy. Rev Econ Stud 72(3):707–734
Jeanne O, Subramanian A, Williamson J (2012) Who needs to open the capital account? Peterson Institute working paper
Klein M, Olivei G (2008) Capital account liberalization, financial depth, and economic growth. J Int Money Financ 27(6):861–875
Mckinnon R, Ohno K (1997) Dollar and yen: resolving economic conflict between the United States and Japan. MIT Press, MA
Mendoza EG (1991) Real business cycles in a small open economy.[J]. Am Econ Rev 81(4):797–818
Mundell R (1963) Capital mobility and stabilization policy under fixed and flexible exchange rates[j]. Can J Econ Polit Sci 29(04):475–485
Obstfeld M (2009) Time of troubles: the yen and Japan's economy, 1985–2008, NBER Working Paper No. 14816
Ostry J, Ghosh A, Habermeier K, Chamon M, Qureshi M, Reinhardt D (2010) Capital inflows: the role of controls. IMF staff position note, SPN/10/04
Patnaik I, Shah A (2010) Asia confronts the impossible trinity. National Institute of Public Finance and Policy Working Paper 2010-64
Yi G (2015) The direction of foreign exchange management reform and opening. China Financ 19:18–20
Yi G, Tang X (2001) "Corner solutions" hypothesis of exchange rate regime: a theoretical foundation. J Financ Res 08:5–17
Yu Y (2015) Premature capital account opening commits a subversive error on fundamental issues. Econ Herald 9:11